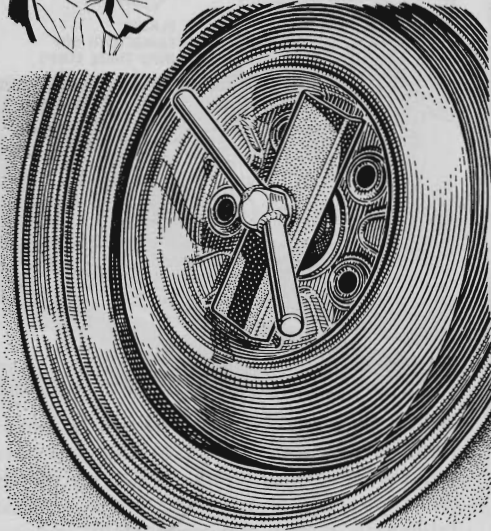




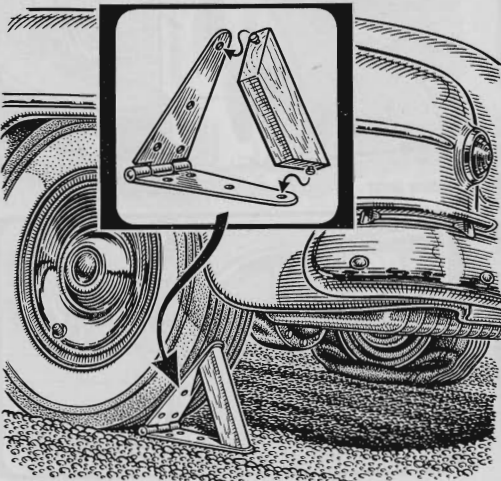
Hints FROM THE MODEL GARAGE



A spare-wheel nut becomes a quick-acting wrench for removing and mounting the spare in the luggage compartment when two $3\frac{1}{2}$ " lengths of $\frac{1}{2}$ " rod are welded to it to form a handle. The handles also reduce the chances of the nut rolling out of sight.



A kitchen towel holder mounted under the deck lid with self-tapping screws will speed clean-up operation after you make roadside repairs or change tires. Keep waterless hand cleaner in the trunk to loosen the grime before wiping.

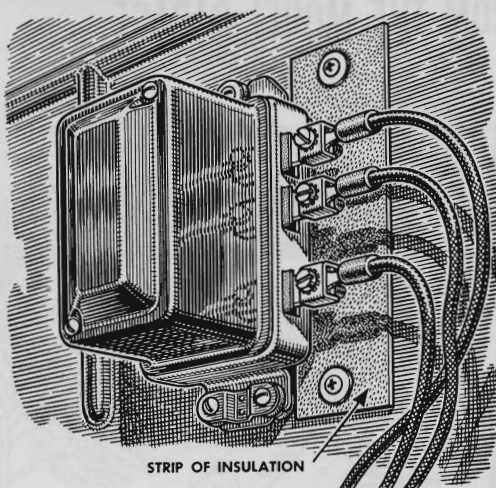


A collapsible wheel chock may save your car from an unexpected take-off when changing a tire. A nail protruding from each end of the wooden brace fits into the end screw holes of the strap hinge to hold it open. The chock folds flat for storage.

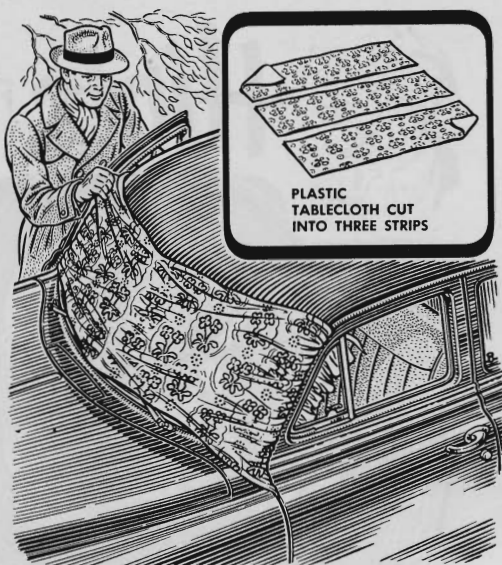


Clutter on a garage shelf can be hidden behind a canvas curtain. Tack the curtain to a wood strip over the shelf, letting it hang freely for easy lifting when something is needed. Protected from the weather, the canvas will last for years.

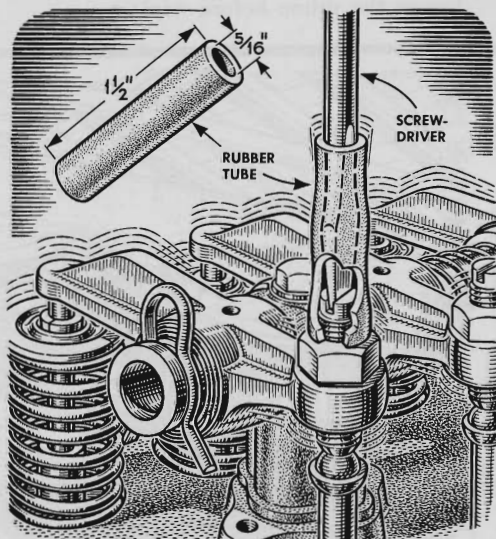
***MORE* Hints from the Model Garage**



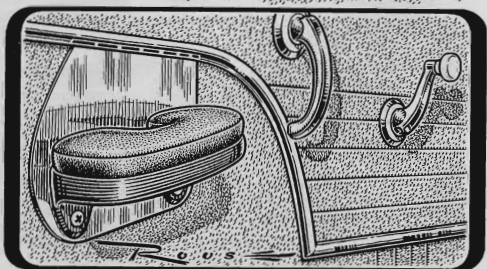
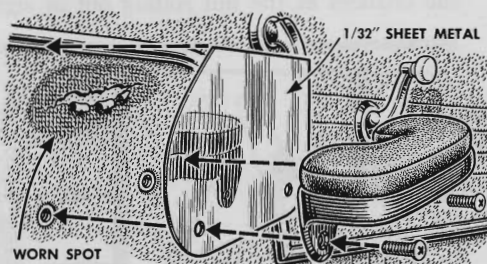
A possible cause of shorts is small clearance between the voltage-regulator terminals and the metal fire wall of a car. A strip of gasket material fastened to the fire wall behind the terminals will prevent shorts from bent terminals or oversize bolts. A tire patch cemented to the fire wall could also be used.



Sleet on your windshield can be hard to remove—especially if the car has been parked for several hours. When icy weather threatens, lay a strip cut from a plastic tablecloth across the windshield and tuck it in the doors. When you return, you can remove the strip and shake the sleet off it in a few seconds.



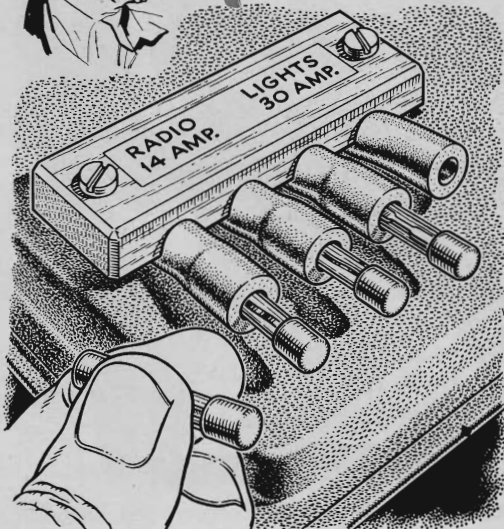
A length of rubber tubing slipped over your screwdriver will hold the tool in the slot while you adjust bouncing valve tappets. The hose fits over the adjusting screw and leaves the lock nut exposed for tightening when the right setting is made.



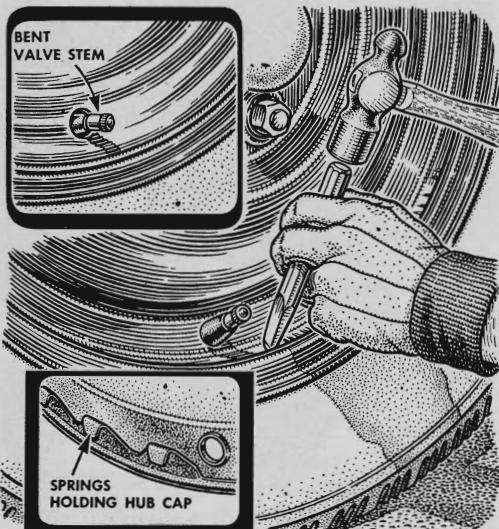
A stainless-steel plate fitted between the armrest and the door upholstery will save the fabric from wearing or cover an already worn spot. Slip the upper edge of the plate under the decorative molding strip and hold it in place with the armrest screws.



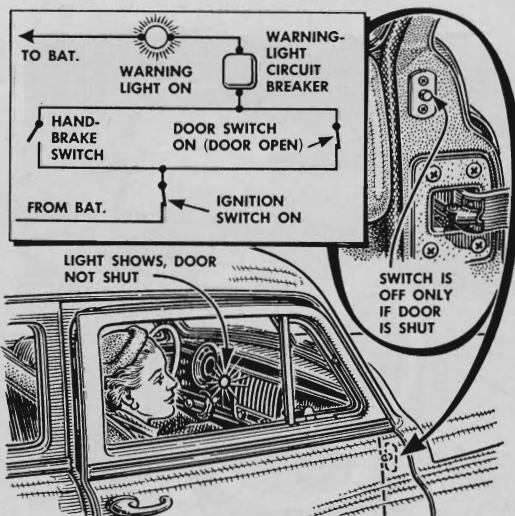
Hints FROM THE MODEL GARAGE



Tuck spare fuses into a clip made from short lengths of windshield-wiper hose for quick replacement as needed. A notched wood block screwed to the inside of the glove-compartment door holds the hose.



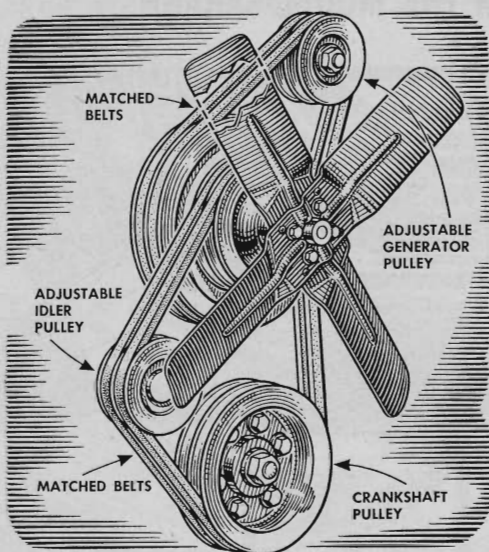
Raise a series of burrs around your wheel rims to keep the hub caps or wheel rings from creeping and distorting the valve stems. Chisel the burrs along the marks made by the spring tabs inside the hub caps.



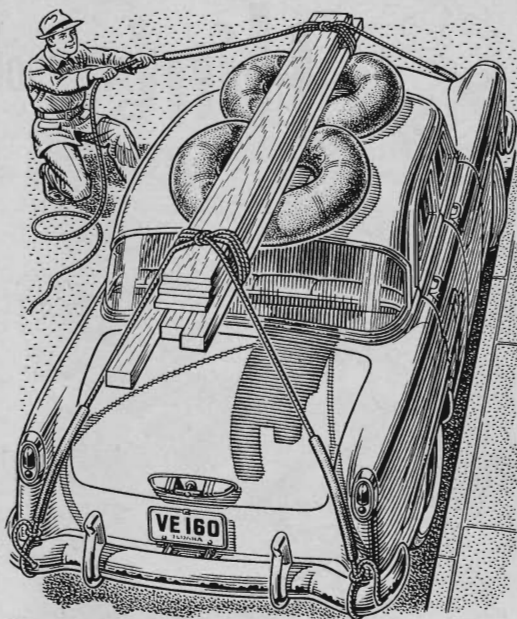
Mount a normally closed switch on the right-hand door to warn you when it's partly unlatched. Wire it through the ignition switch to the hand-brake warning light or a separate bulb on the dash so that you'll know the door is shut before you start.



Join two pieces of inner tube with a leather strap to make a pair of sleeves that will protect your arms from dirt or a hot manifold when reaching in or around the lower parts of a motor. Use the sleeves for protection against sparks when welding.



Replace both belts on a dual-belt drive, even though only one is worn. Slight differences in lengths of belts bearing identical numbers can make one belt do more than its share of work. Matched belts are packed in sets to be used together.



Long boards or other objects too long for the inside of a car can be hauled on the roof, using inflated inner tubes as cushions. Tie the load to the bumper ends to keep it from pivoting, and slip lengths of hose over ropes to protect car finish.



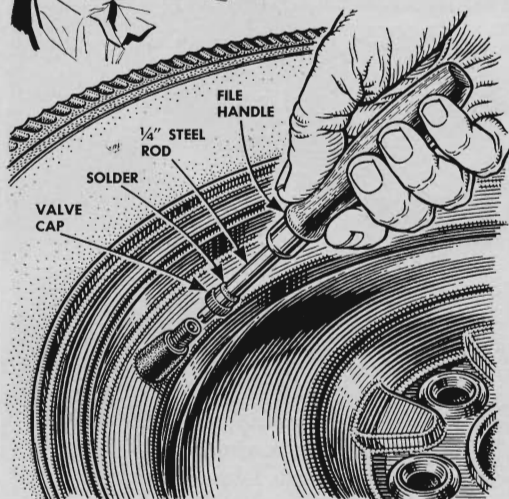
Use a toothbrush to remove the dried and whitened polish from body seams or behind chrome trim. The same brush can be used to *put* wax in these places as a precaution against body rust or to clean dust from the instrument panel and radio grille.



Caught with a flat at night and no trouble light, you can reflect enough light from the headlights to see what you're doing. A road map or newspaper, partly folded down the center and held or propped in front of the car, will do the trick.



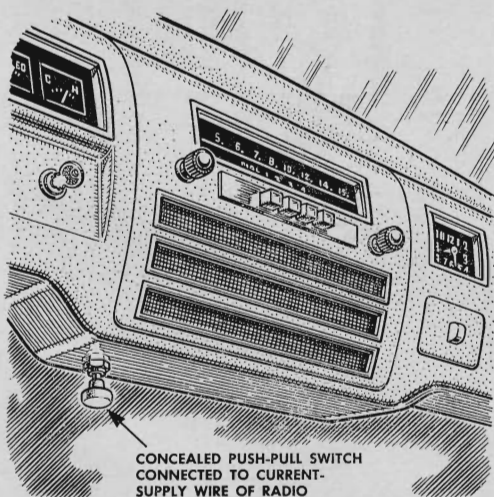
Hints FROM THE MODEL GARAGE



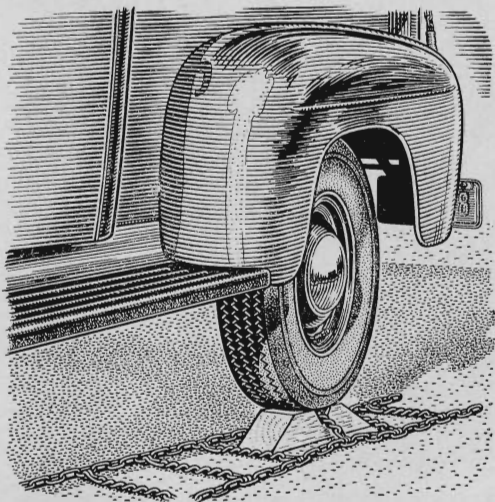
Valve cores can be quickly removed from tire tubes with this screwdriver-like tool. A valve cap—the kind with a core-extracting tip—is brazed or soldered to one end of a $\frac{1}{4}$ " steel rod and a wood file handle is forced on the other end.



An extra hand strap added to the right front seat will make it easier to get in and out, and provide a handhold on rough and curving roads. Securing the strap to one of the screws that hold the sunshade bracket saves drilling new holes.

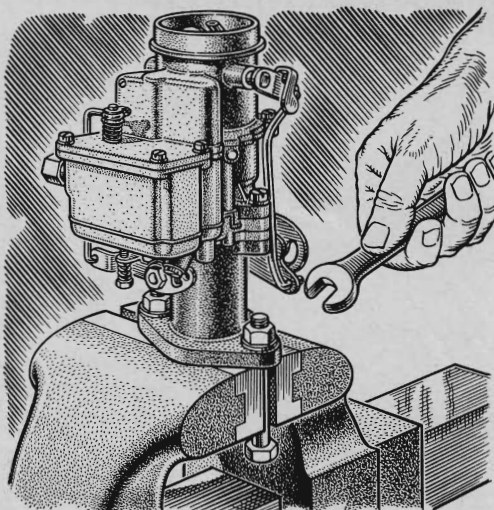


A car radio can be turned on and off without disturbing the volume control if you wire a separate push-pull switch in ahead of the regular one on the control. Position of the knob under the dashboard also helps prevent unauthorized use.

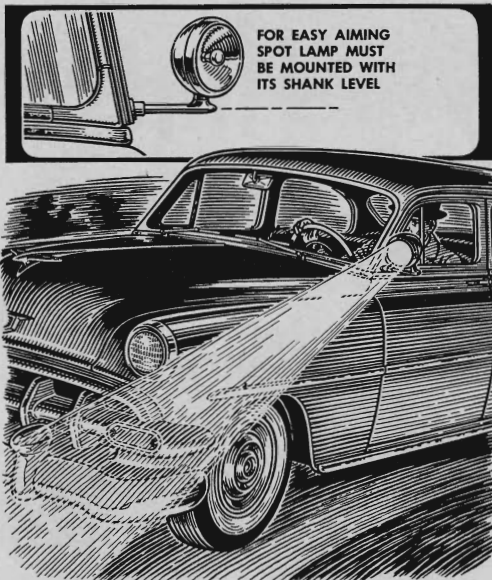


Tire chains can be quickly put on without jacking up the car with this ramp made from a 4"-by-4" notched in the middle. One cross link is laid in the notch and the wheel driven on top, leaving the chains loose at the bottom and easy to clasp.

MORE Hints from the Model Garage

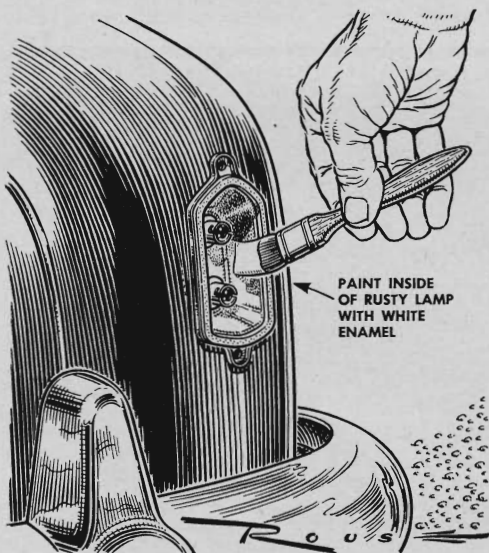


To hold a carburetor while you work on it, clamp two $\frac{3}{8}$ " bolts in a vise and bolt the carburetor to these through the mounting holes in the flange. This will provide a very rigid work mount without danger of damaging the carburetor.



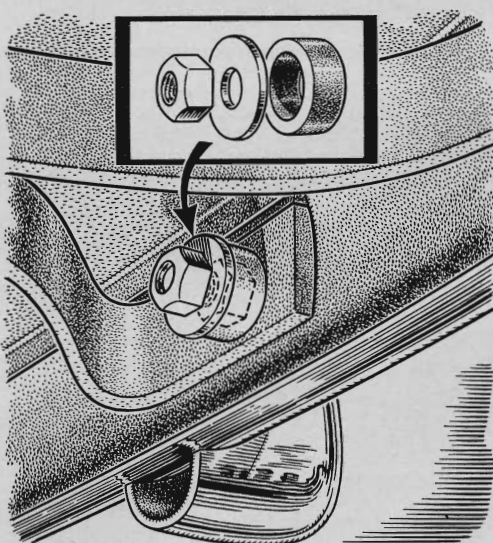
FOR EASY AIMING
SPOT LAMP MUST
BE MOUNTED WITH
ITS SHANK LEVEL

When mounting a spotlight, be sure to get the control arm level so the beam will stay level as you swing it. Wire the spotlight independently of the head lamps so that if the latter should fail, you still will be able to continue.



PAINT INSIDE
OF RUSTY LAMP
WITH WHITE
ENAMEL

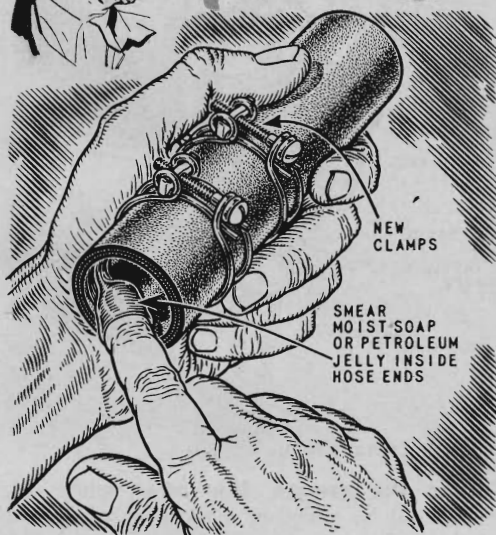
Tail lights will shine brighter if you paint the inside of the lamp receptacles with white enamel to increase their reflectivity. This is especially helpful on older cars where the housings have become heavily rusted. Clean the metal thoroughly before painting.



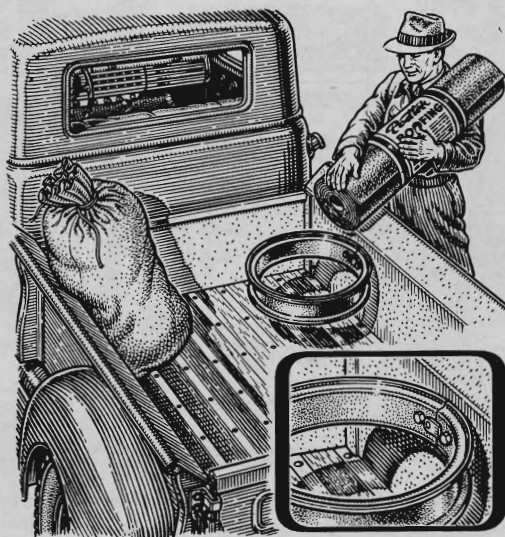
A frozen nut on a loose bumper guard can be bypassed this way on cars that have long guard bolts. Cut a short collar of pipe large enough to fit over the nut and slightly longer than the nut's thickness. Then add a new nut and washer and draw up tight against the collar.



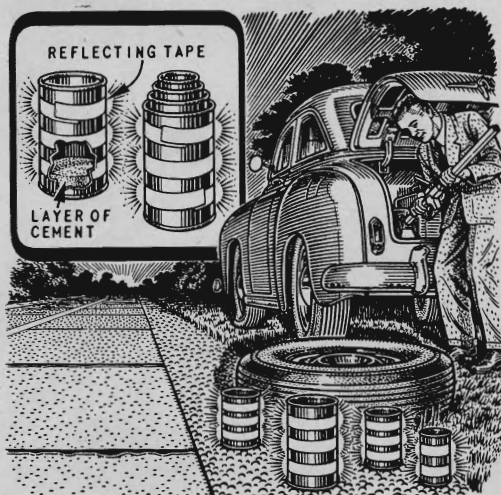
Hints FROM THE MODEL GARAGE



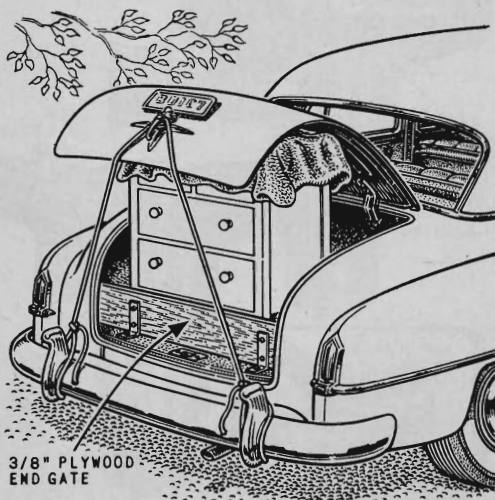
Rub soap inside hose ends when installing new connections between the radiator and motor block. They'll slip on the fittings easily and save you much pulling and tugging. For a thorough job, sandpaper the rust off the fittings and use new clamps.



Bolt one or two truck-tire rims to the side of a pickup truck to keep cylindrical objects like oil drums or rolls of roofing from rolling about. Bolt the rims as high up from the floor as the sides will permit to keep the loads from tipping out.

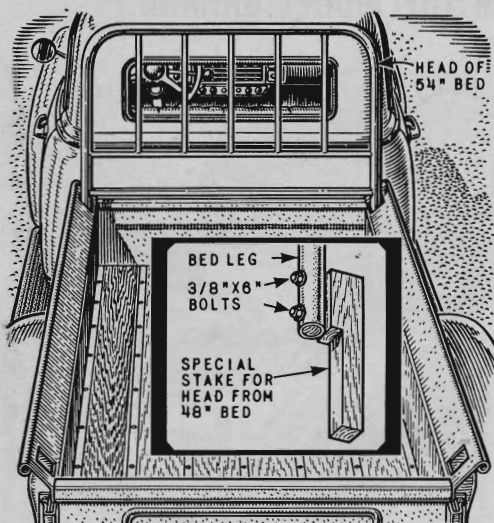


Wrap reflective tape around tin cans to warn passing motorists when you're stuck or changing a tire. Use cans of different sizes so they will nest compactly in the trunk and pour a little cement in the bottom of each can to keep them from blowing over.

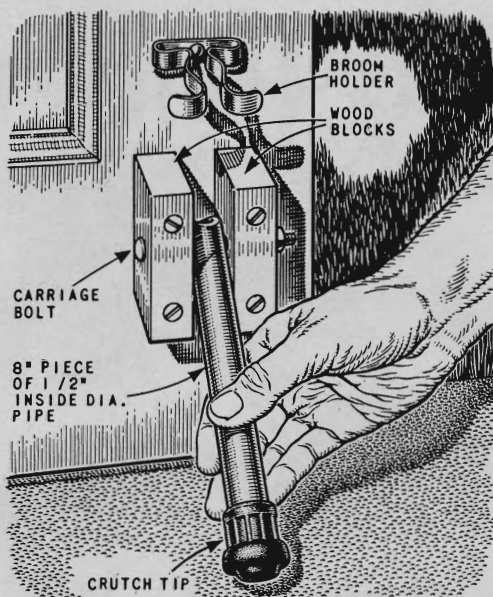


Put a plywood end gate across a low trunk opening to keep tools from rolling out when transporting a large object with the trunk lid up. Set it back far enough so that it won't interfere with the latch and secure it with metal angles bolted to the floor.

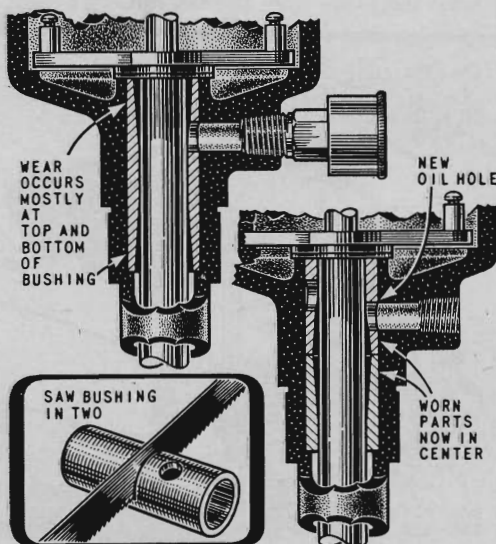
MORE Hints from the Model Garage



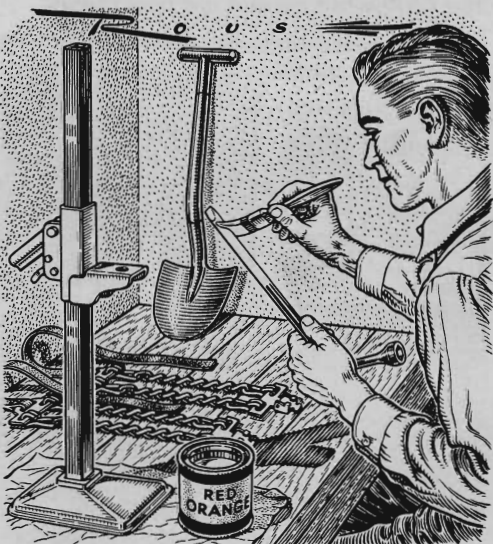
Use the head of an old metal bed to keep the load in a pickup truck from crashing through the rear window when you stop suddenly. Cut a hole in the body sides for the legs. Make the head of a narrow-width bed fit by adding wood extensions (inset).



Keep the garage door open while you back out by pivoting a piece of pipe on a bolt held by two blocks of wood screwed to the inside of the door. A rubber crutch tip keeps it from slipping and a spring clamp stores it up out of the way.



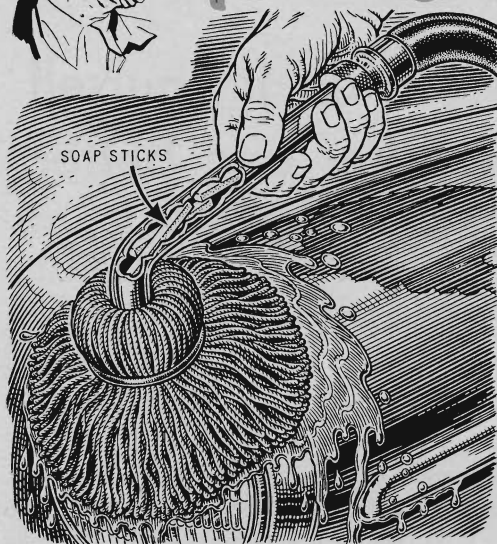
When a distributor bushing wears, play in the shaft affects engine performance. Because most wear is at the bushing ends, you can save fitting a new one if you cut the old bushing in two, drill a new oil hole and put it back with the center sections out.



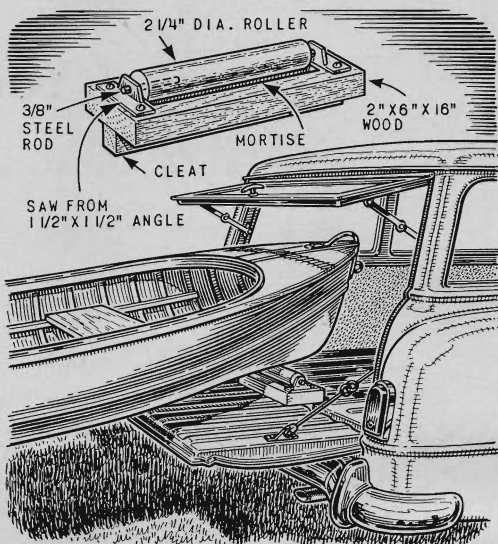
Paint car tools bright orange or yellow to make them easier to see. Then you'll be less likely to leave them at the roadside when you take them out in snow or at night to change a tire or make repairs. The paint will also keep them free from rust.



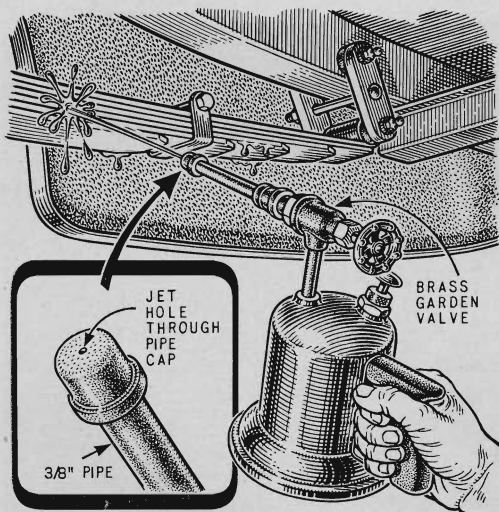
Hints FROM THE MODEL GARAGE



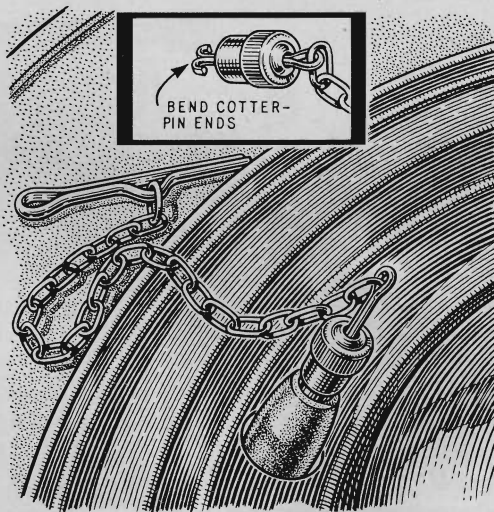
A car-washing mop that attaches to a garden hose can be made to dispense soapy water by filling the hollow handle with soap slivers shaved from a cake. When soap dissolves, clear water will follow for rinsing.



Loading a boat into a station wagon is an easy one-man job with this roller that slips quickly between tailgate and body. The roller can be from an old lawn mower or kitchen rolling pin, mounted as shown.

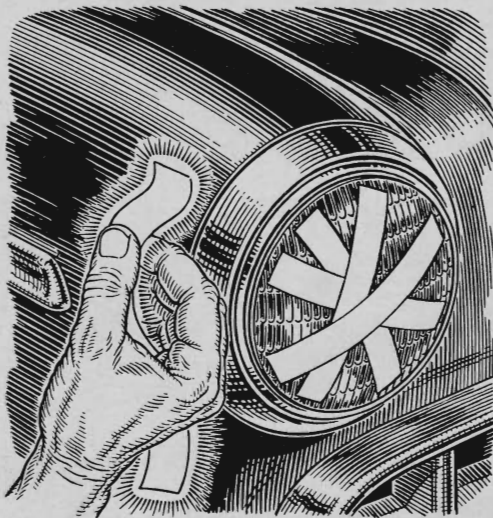


Oiling hard-to-reach spots is easy with this pressure lubricator made from an ordinary blowtorch. Unscrew the burner and screw in the nozzle made from a valve and two lengths of pipe as shown. Pumped up, the rig will squirt oil several feet.

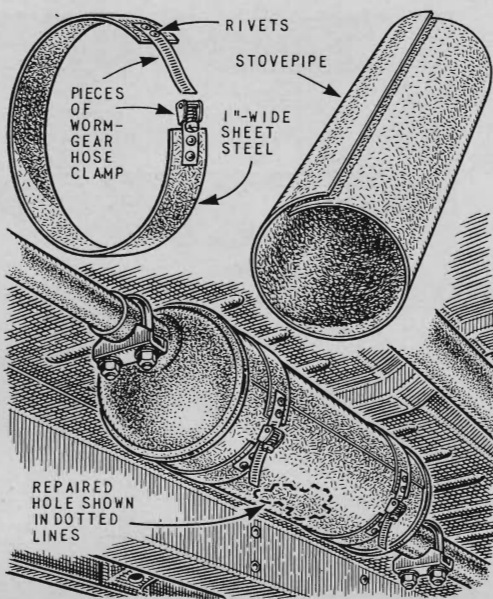


One way of holding a valve stem when mounting a tire is suggested here. Screw on the chained valve cap after inserting the stem through the rim hole. If the stem slips back, the cotter pin on the end of the furnace chain won't let it go too far.

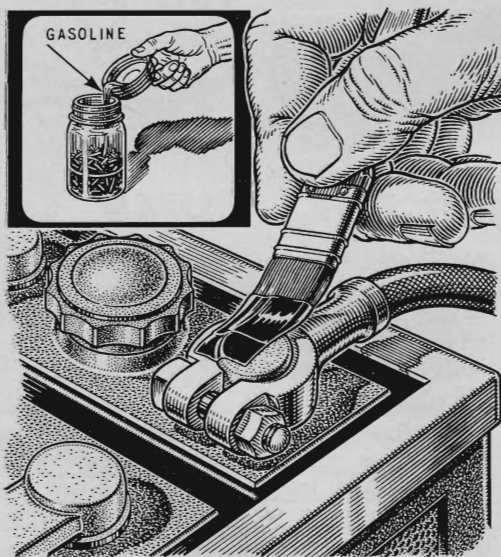
MORE Hints from the Model Garage



A roll of reflective tape, carried in the glove compartment, will protect you against collision if you're caught with a dead headlight. Strips pasted across the lens will show other motorists which light is out so that they can pass at a safe distance.



Patch a leaky muffler with a length of stovepipe clamped around it this way. Cut apart two aircraft-type hose clamps and rivet the pieces to two metal bands as shown. Slip the bands around the stovepipe and pull up tight with a screwdriver.



Stop battery corrosion around posts and terminals with a paint made from the pitch of old batteries dissolved in gasoline. The paint can be stored in a closed jar and brushed on whenever the cables have been removed or a new battery is installed.



Tools are kept clean and easy to get at if you store them in an old zipper-type travel case. Folded flat, the case will fit under the front seats of most cars, making the tools quickly accessible without having to unpack a trunk that may be loaded with baggage.



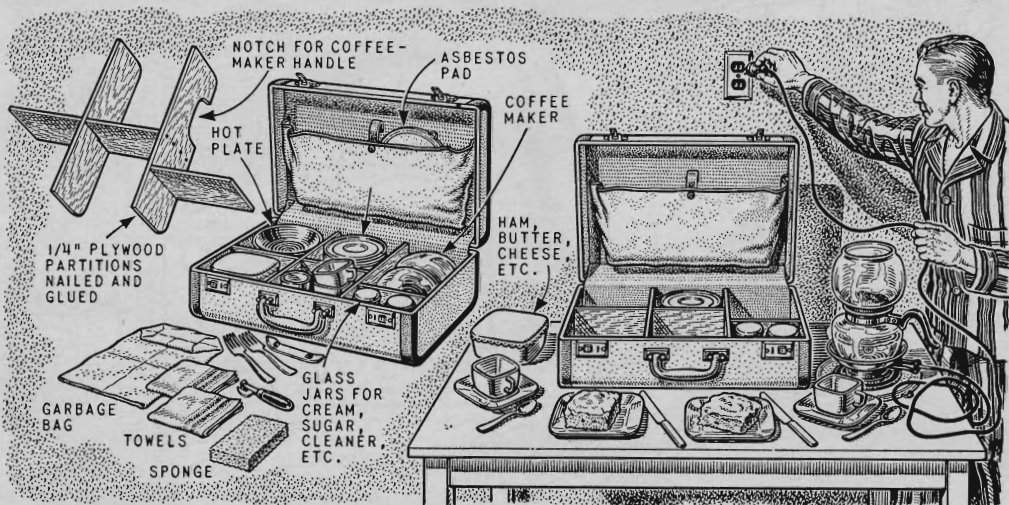
Hints FROM THE MODEL GARAGE



Bugs on your windshield can be washed off easily with an 8" square of tent-weight canvas soaked in water. The canvas is rougher than a cloth and does not slide over the dried-hard spots. When clean, dry the windshield with a paper towel or a cloth.



If your car has no turn signals, you can make your hand signals more visible at night by attaching strips of reflecting tape to a special driving glove that you keep in the glove compartment. Strips can be put on both sides of the glove.



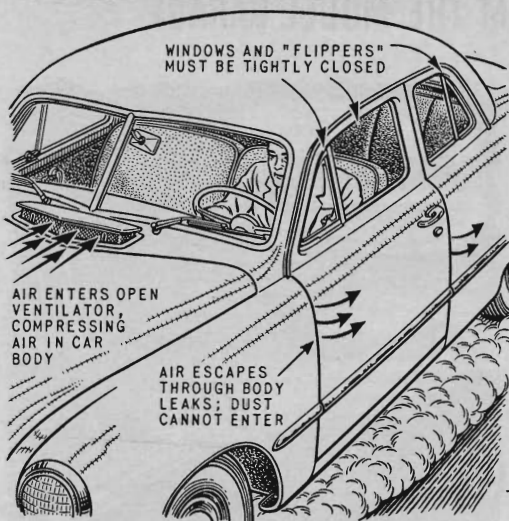
Whip up a meal anywhere with this fitted food kit. Many overnight road stops are nowhere near a diner, but there's a good chance you'll find electricity and water. Everything else you'll need is in the kit. Divide a 12"-by-18" suitcase, about 6" deep, into

compartments with plywood partitions to hold a coffee maker, hot plate, can of coffee, square plastic cups, bowls and dishes, jars of sugar, powdered cream, and detergent for cleaning up. Ham, eggs, butter and other perishables should be replenished daily.

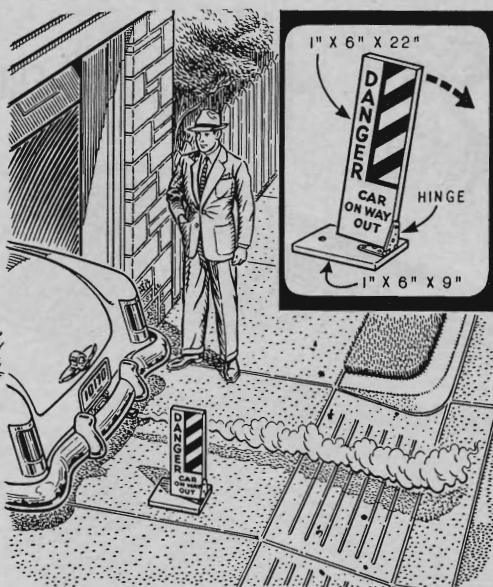
Please turn the page for more auto hints.

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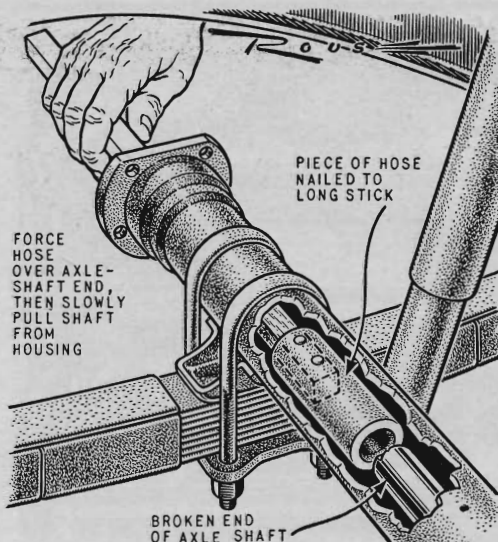
MORE Hints from the Model Garage



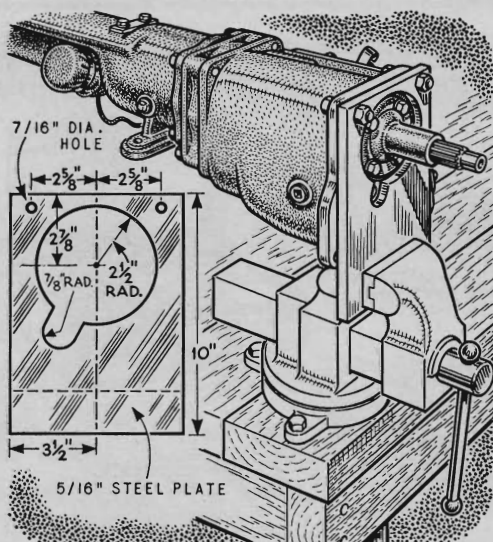
In dusty driving, it helps to close all windows and open the cowl or heater vents wide. This raises the air pressure inside the car. If the windows are partly open, pressure is reduced and dust is sucked through the seams and body openings.



A danger signal like this will warn pedestrians if you must back out of your garage across a sidewalk. Set it upright on the walk, then back over it, knocking it down on its hinged base. Hang the sign on a nail inside the garage when you close the doors.



Tack a short piece of radiator hose to a stick to fish out the remaining stub of a broken axle shaft. Try different sizes of hose on the broken end of the piece that came out of the housing to find a diameter that will fit snug enough to do the job.



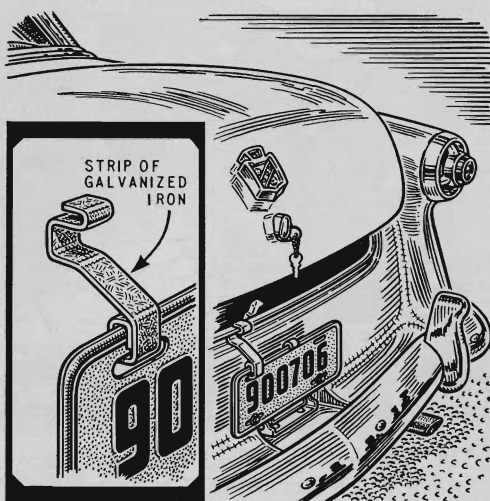
Support a '49-'54 Ford transmission for easy overhaul by bolting it to a heavy steel plate clamped in a bench vise. The large opening gives access to the bolts holding the main-shaft bearing retainer and the small opening permits removal of the countershaft.



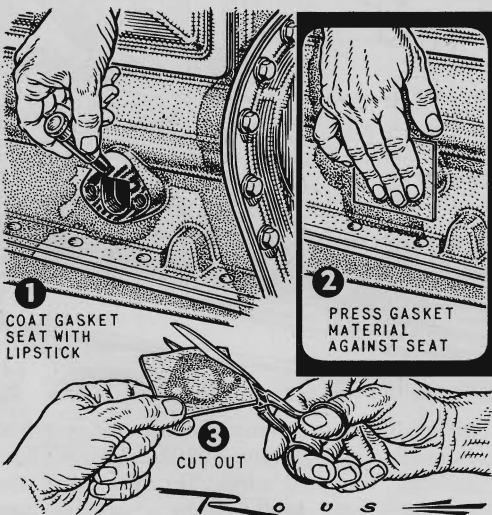
Hints FROM THE MODEL GARAGE



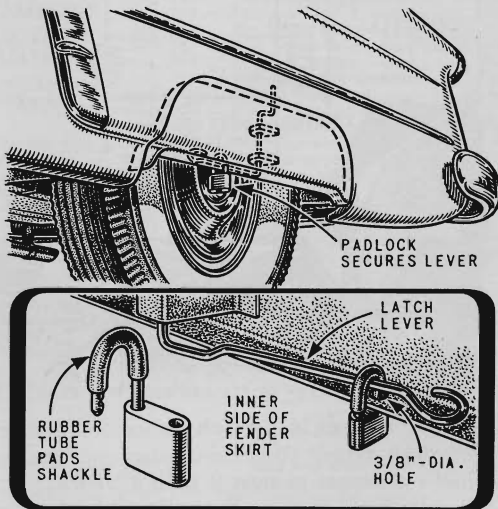
Stow a damp cloth in a plastic bag for cleaning dust and insects off your windshield between stops at service stations. Moisten the cloth with water or windshield cleaner and snap a rubber band around the neck of the bag to keep the fluid from evaporating.



To foil gas thieves, bend a length of galvanized strap iron to fit the top slot of the hinged license plate and the edge of the trunk opening. With this arrangement, a gas cap behind the license plate cannot be removed easily without unlocking the trunk.

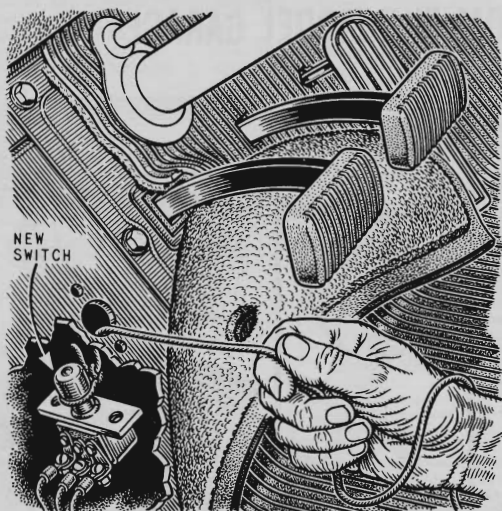


Use lipstick to outline the shape of a flange on sheet material when cutting a gasket. Smear it over the entire surface and press the gasket material against it. The resulting imprint will show the outline as well as the hole locations.

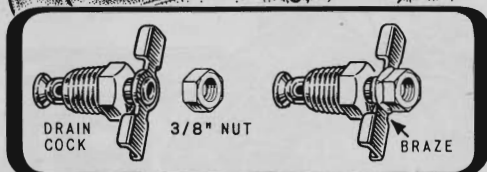
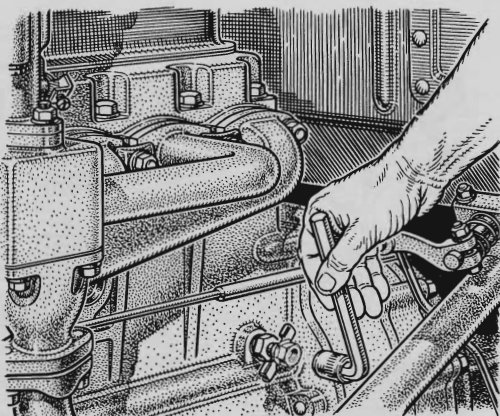


Thieves can't remove fender skirts if you fit them with padlocks to hold the clamping levers closed. Slip a lock over the lever arm and through a hole drilled in the bottom edge of each skirt. Cover the shackle with rubber tubing to keep it from rattling.

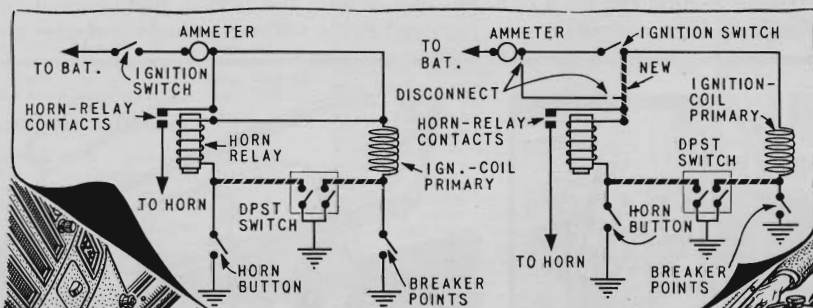
MORE Hints from the Model Garage



Tie a string to an old headlight dimmer switch before removing it to install a new one. This way you can pull the old one down by its wires and connect the wires to the new one. Tie the string on the new one and pull it up from inside the car.



Braze a $\frac{3}{8}$ " nut on the T handle of your car's drain cocks to make them easier to turn. They are usually hard to reach, too, but a 12-point socket wrench will slip over the nut easily and open the drain in the tightest spaces. Water runs through the nut.



CLOSE ALARM SWITCH AND HORN WILL BLOW IF THIEF TRIES TO START CAR

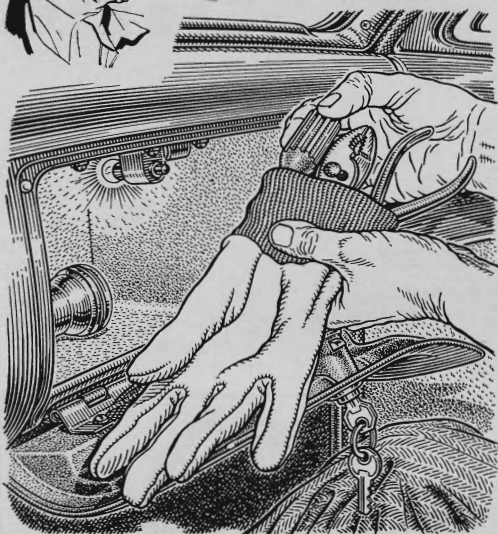
Throw a toggle switch concealed under the dash when you leave your car, and a thief's attempts to start it with a trick key or by jumping a wire to the coil will be loudly announced by a steady blast of the horn. Even if he cuts the horn wire to work in silence, he won't start the engine; the breaker points are grounded and won't spark.

The diagram at left above shows how to wire a double-pole, single-throw toggle

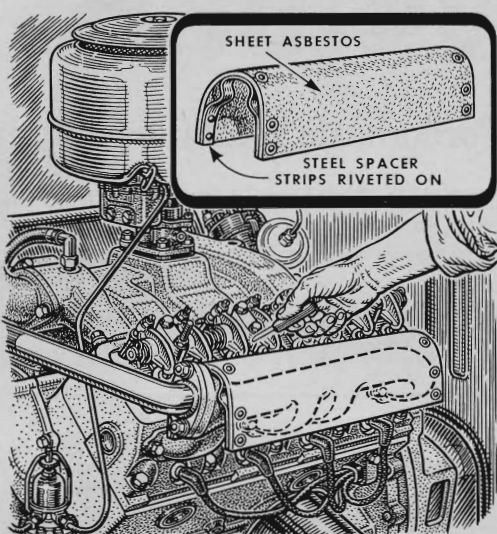
switch on cars having the horn relay wired through the ignition switch. Heavy lines indicate the new wires. On other cars, the toggle wiring is the same, but the horn relay is disconnected from the ammeter or starter post and rewired to the ignition switch as in the diagram on the right. In either case, the horn cannot be sounded with the horn button unless the ignition switch is turned on.



Hints FROM THE MODEL GARAGE



Keep small tools from rattling in the glove compartment by storing them in the fingers of a pair of work gloves. Then, if you must make an emergency repair, you can lay out the tools and don the gloves to protect your hands from grease and dirt.



Make an asbestos shield to keep your hands from being burned by a hot manifold when tuning or adjusting an engine. Cut sheet asbestos to fit over the exhaust manifold and rivet steel strips to the ends to clip the shield in place.



Soap for everything. Keep a bar of soap in your car's tool kit—it has many uses: Lubricate a bolt with it when grease or oil would cause a stain; rub it on an inner tube to help locate a leak; slide a hose on a fitting without effort by rubbing soap on the in-

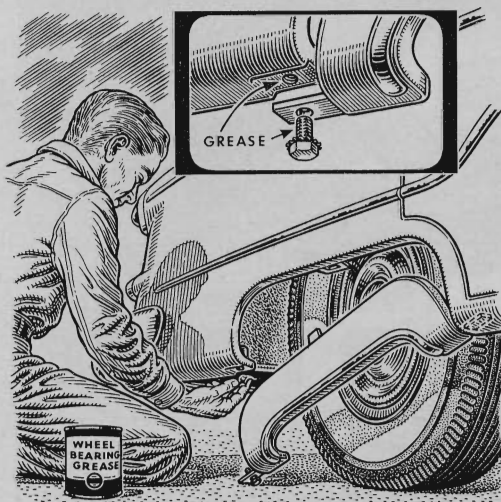
side; or lubricate a tire bead with it to make tire-changing easy. Rub soap over your hands, too, and in your nails before starting a job—washing will be easier later. Soap jelly, made by dissolving small scraps in a jar of water, is especially easy to apply.



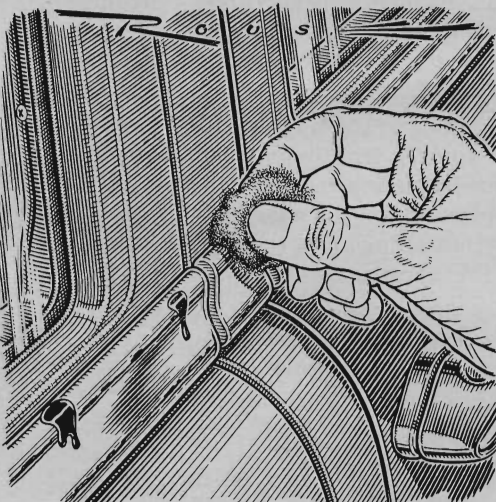
Improvise a coat-hanger bracket by closing a rear window tightly on a rubber fruit-jar ring. The ring will support several garments on hangers and will leave no marks or scratches on the window. A ring cut from an inner tube will serve as well.



Calibrate an old coffee pot for use as an oil measure by filling it a pint at a time and punch-marking the side to the level reached as each additional pint is poured into it. Make the punch marks crisp enough to be clearly visible from the inside.



Make fender skirts easy to remove by coating the lock bolts with heavy wheel-bearing grease to keep them from rusting. Skirts are bolted on many late-model cars and it is almost impossible to remove a rusted-tight nut without twisting or otherwise damaging the fender.



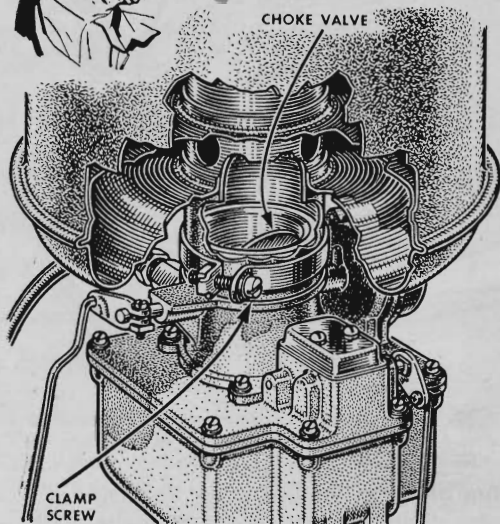
Clean paint off chrome trim or rubber moldings with steel wool, after doing a touch-up or spray job on the body. Wind the wool around a stick if the area is small or hard to reach. This way, you won't put scratches on the trim as you might with a knife or scraper.



Hints

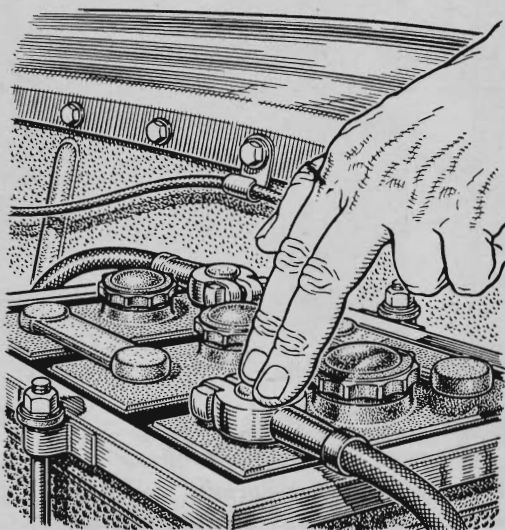
FROM THE MODEL GARAGE

CHOKE VALVE

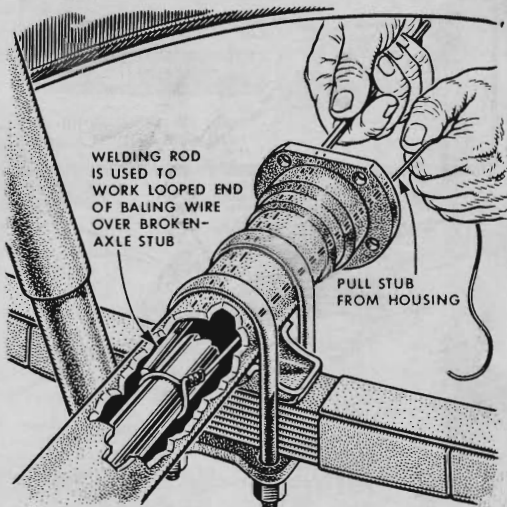


CLAMP SCREW

A stuck choke valve is often the result of overtightening the clamp screw on the neck of the air cleaner. This tends to distort the barrel of the carburetor slightly, causing the butterfly to stick. Loosening the clamp screw remedies the condition.



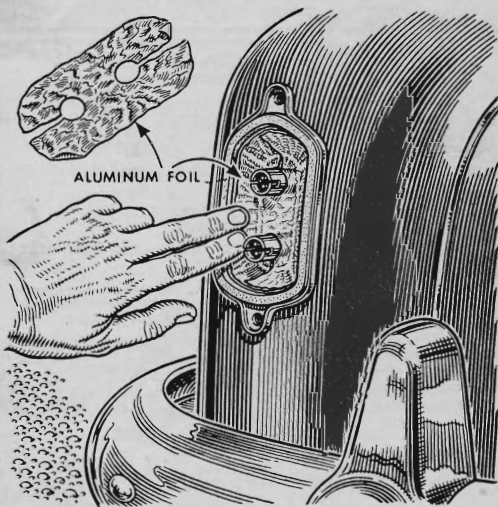
A loose battery connection can be spotted by turning the engine over for 20 to 30 seconds with the ignition off. A dirty or loose connection will feel warm to the touch, indicating that resistance is robbing you of starting power.



WELDING ROD IS USED TO WORK LOOPED END OF BALING WIRE OVER BROKEN-AXLE STUB

PULL STUB FROM HOUSING

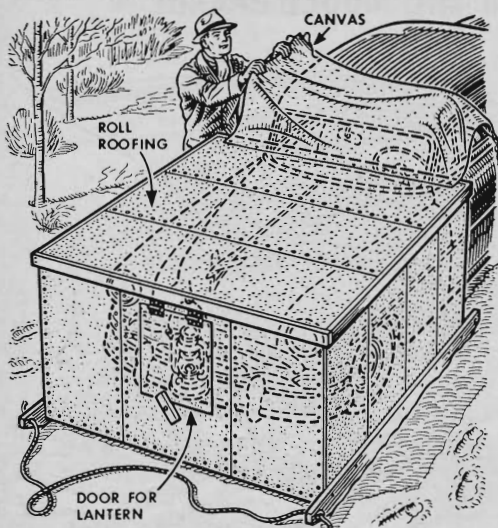
Lasso the stub of a broken axle shaft with a loop formed on one end of a piece of baling wire. Shape the loop around the removed piece of axle and work it onto the stub inside the housing. Yank the wire to pull it tight, then tug firmly.



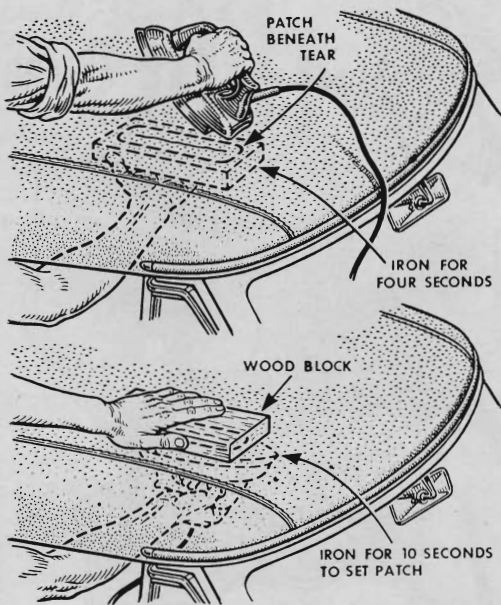
ALUMINUM FOIL

Aluminum foil makes a good reflective lining for tail lights or back-up lights. Cut pieces to fit and press them over dull or rusted reflectors. The lights will shine as bright or brighter than new against the slightly wrinkled aluminum.

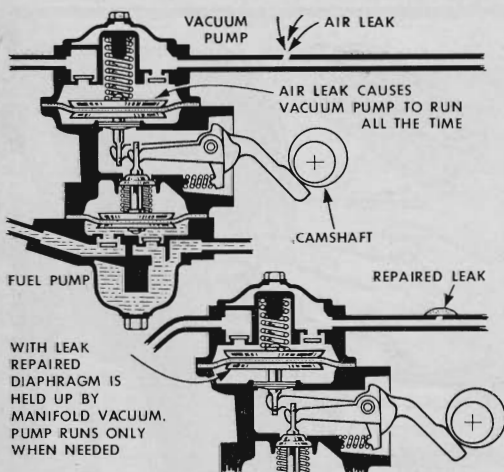
MORE Hints from the Model Garage



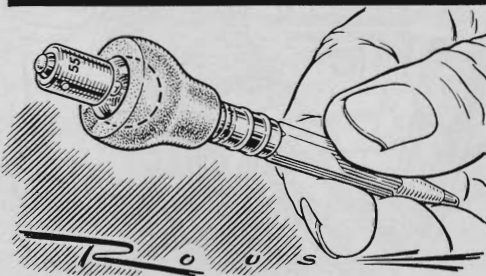
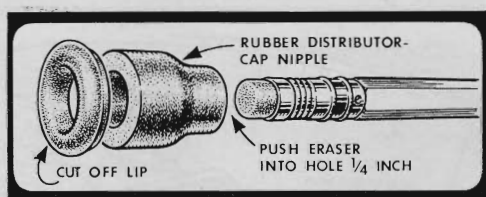
Until you add that garage, here's a temporary one that will keep your car easy to start in winter. Cover a large packing crate with roofing paper and hang a lantern in it for heat. Tack a canvas flap on it to cover the windshield. Runners make it portable.



Rug binding, applied to the underside of a convertible top, patches and waterproofs holes or tears almost invisibly. Back up the patch with a block of wood while you apply a hot iron to the top. Then hold the block over the top and iron the patch.



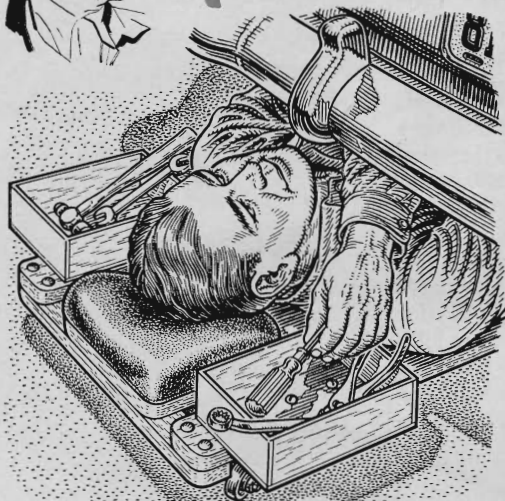
If, on a top overhaul, you find abnormal wear on the part of the camshaft that operates the fuel-pump arm, look for a leak in the vacuum lines to the wiper, washer or antenna erector. A leaky hose can keep the vacuum-booster pump working constantly, adding greatly to the normal wear on the camshaft eccentric.



A rubber distributor-cap nipple forced over the eraser end of a long pencil makes a convenient extension for removing and replacing the small map-light bulb in '51 Buicks. Slide the ash tray out of the way and press the nipple over the bulb. Twist to the left to remove it. Reverse the procedure to install a new bulb.



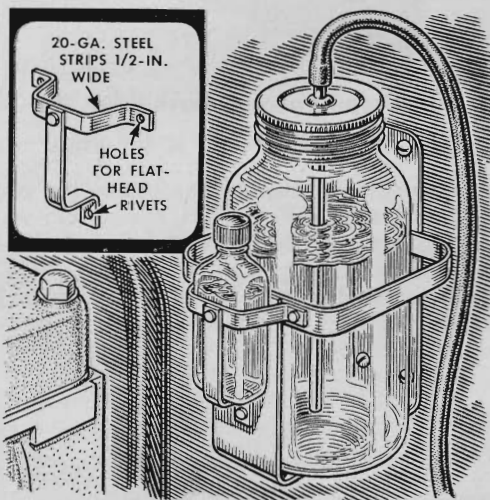
Hints FROM THE MODEL GARAGE



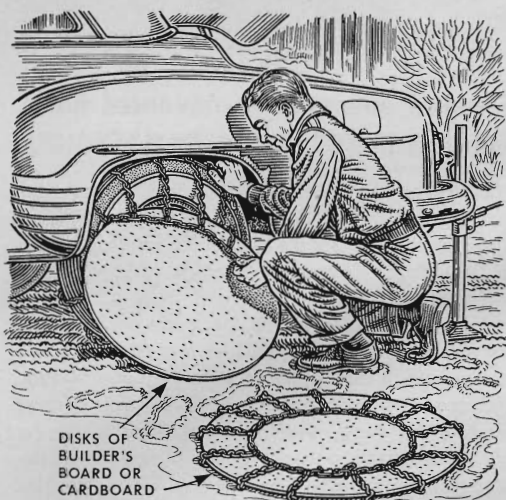
Attach a cigar box to each side of a creeper headrest to hold wrenches, screwdrivers and other small repair equipment. Kept in the boxes, the tools will always be within easy reach, no matter how much you move around on the creeper.



An ordinary shower hose, with spray head attached, makes quick work of thawing out a frozen trunk lid to get at the chains and jack. With the faucet attachment slipped into the exhaust pipe, hot engine gases melt the ice without damaging paint.

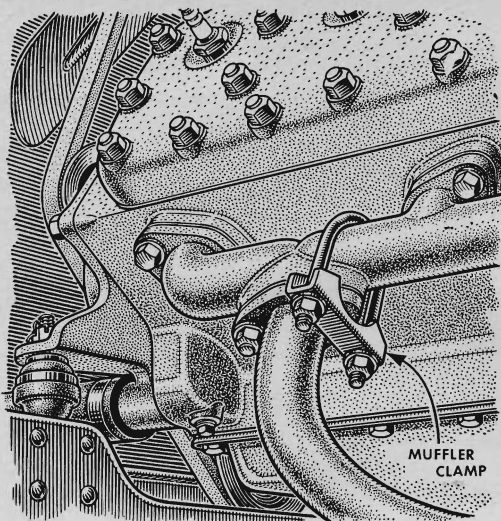


Make a small metal cradle and attach it to the side of your windshield-wiper reservoir bracket to hold that little bottle of solvent antifreeze that's always getting lost or broken. The cradle is held together and to the bracket with flathead rivets.

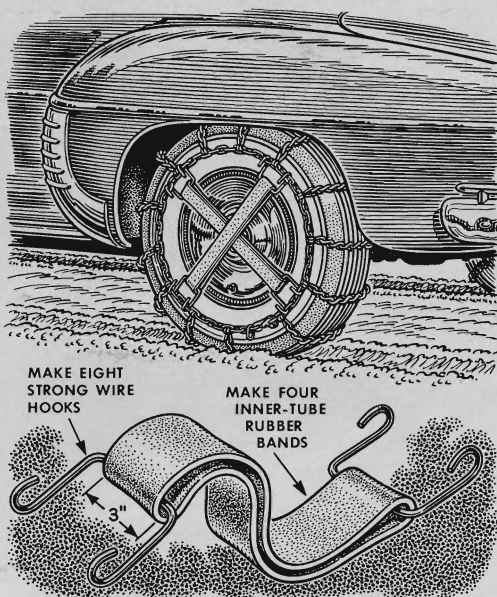


Store tire chains on disks of heavy cardboard or wallboard cut to the outside diameter of the tires. Free from kinks and easy to handle, the chains can be brought up alongside the wheels and transferred from the disks to the tires in short order.

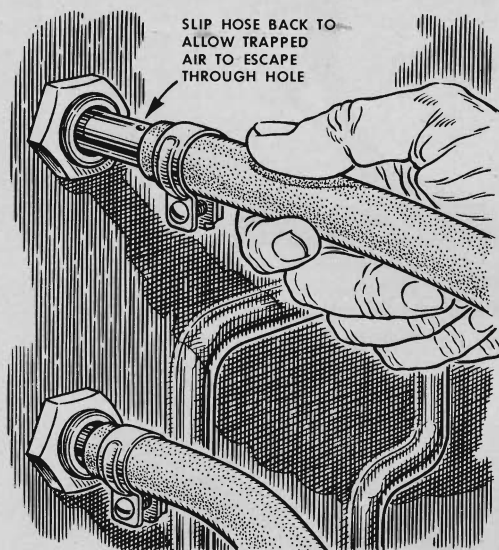
MORE Hints from the Model Garage



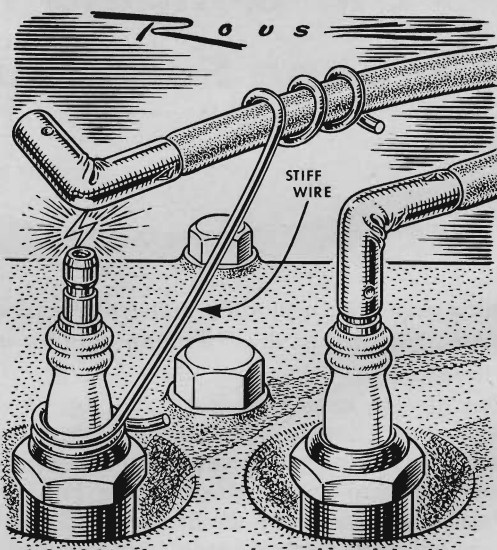
When a bolt connecting the exhaust pipe to the manifold is twisted off, you can often make a durable repair by placing a muffer clamp around the manifold and under the pipe flange. It's simpler than drilling out the broken bolt end.



Stop tire chain slap in 20 minutes with a set of homemade tighteners. Cut four rubber bands from an inner tube and bend eight double hooks from stiff wire. Slip two of the wire fasteners through each band and attach them to the chain links as shown.



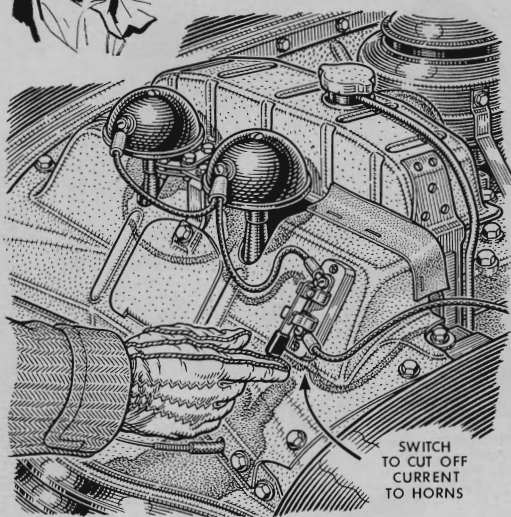
Try this if your car heater becomes air-bound. Pull the hose connected to the upper heater tube back an inch and drill a 1/16" hole through the top of the tube. Move the hose forward to cover the hole. Uncover it briefly whenever air-binding occurs.



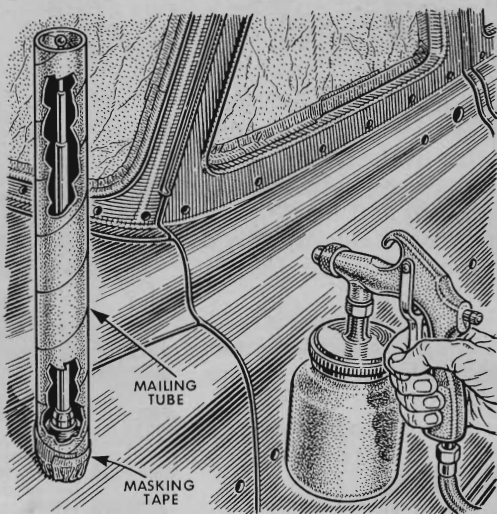
Having trouble with an oil-passing cylinder that fouls the spark plug every few miles? To help you get home, clean the plug, replace it, and anchor the ignition cable 1/4" from the plug with wire. The resulting hot spark slows soot build-up.



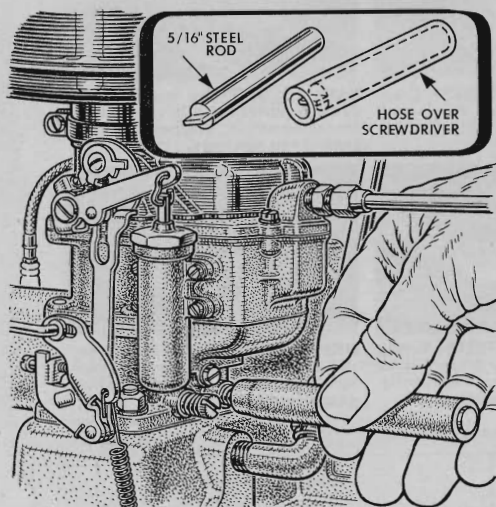
Hints FROM THE MODEL GARAGE



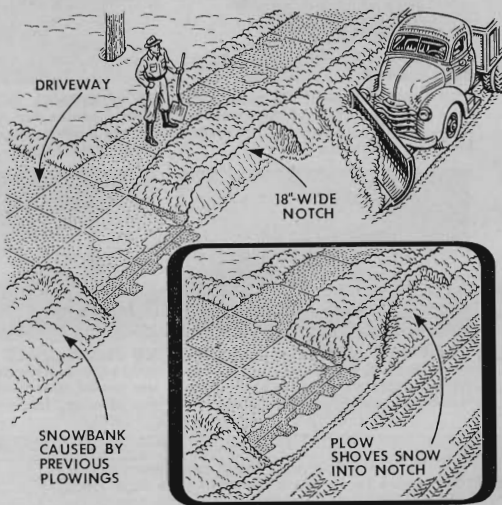
Install a knife switch in the power lead and you'll never be embarrassed if a stuck relay or grounded wire makes your horn break into a noisy solo. Just pull the switch to break the circuit quickly.



A mailing tube can save you the trouble of masking your car's radio antenna next time you want to do a partial or complete body refinishing job. Just slip the tube over the end of the telescoped antenna.

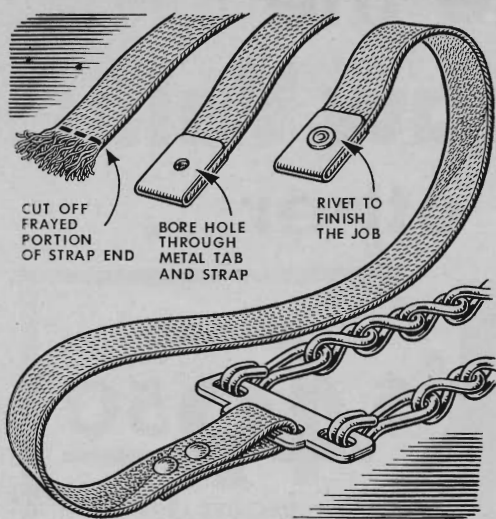


This screwdriver stays aligned with carburetor adjusting screws while you give your full attention to tune-up jobs. Make the screwdriver from 5/16" rod and draw on a tight sleeve of rubber hose with a 1/4" extension to fit over the screwhead.

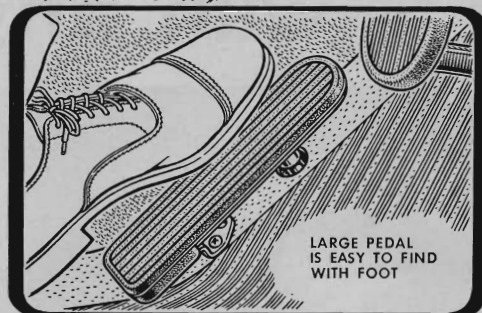
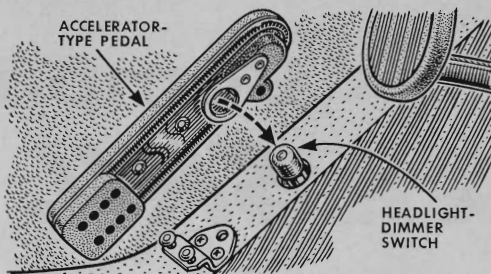


A snowplow won't backfill your driveway if you dig a notch about 18" wide and 8' long in the snowbank in the direction from which the plow will come. This gives the plow blade a chance to dump its load before it reaches the shoveled-out drive.

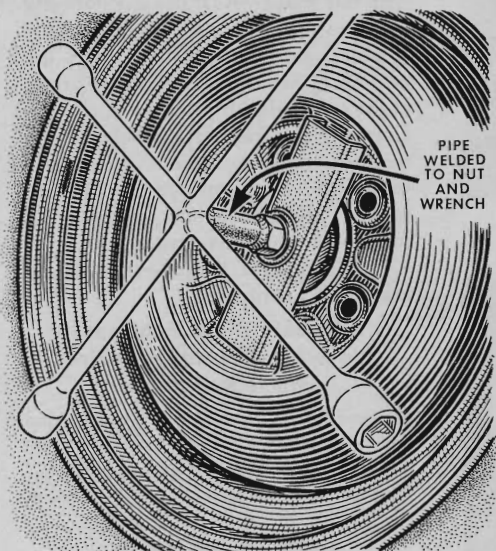
MORE Hints from the Model Garage



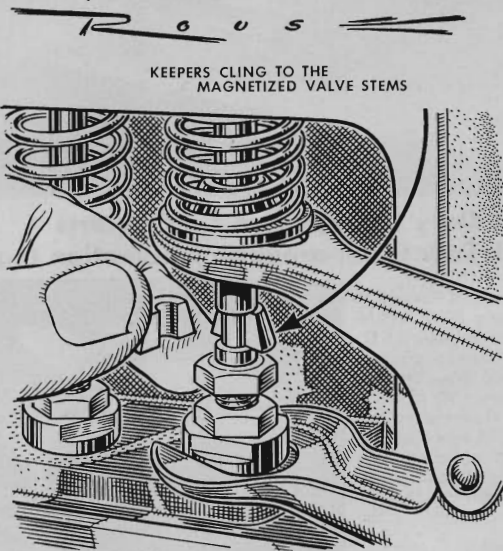
Metal tabs made from linoleum rug binding and riveted over the strap ends of emergency tire chains will eliminate fabric fraying and speed up the job of threading the straps through finger-freezing wheel slots and chain buckles.



No floundering to find the headlight-beam switch, when you hinge a replacement accelerator pedal over it. Rivet a plate with a hole in it to the bottom of the pedal, slip the hole over the switch button and mount the pedal on the hinge plate.



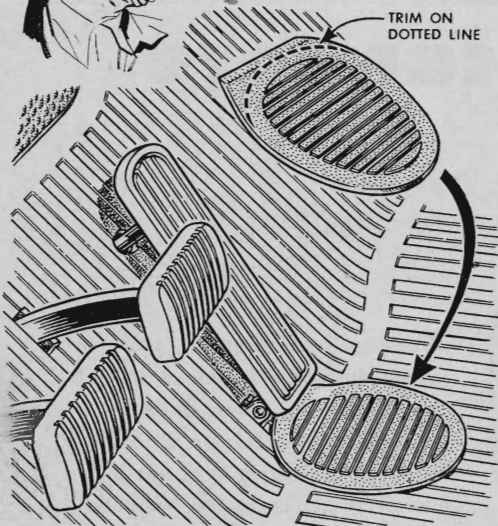
A lug wrench is always handy and the spare-tire retaining nut won't get lost if you braise the nut to a short piece of pipe and weld the pipe at right angles to the center of the wrench. Make sure the pipe will admit the retaining-rod end.



Magnetism can be used to hold the keepers in place during reassembly after a valve job. Stroke the ends of the valve stems with a powerful alnico magnet before dropping the valves back into the block. The small keepers will then leap to the stem.



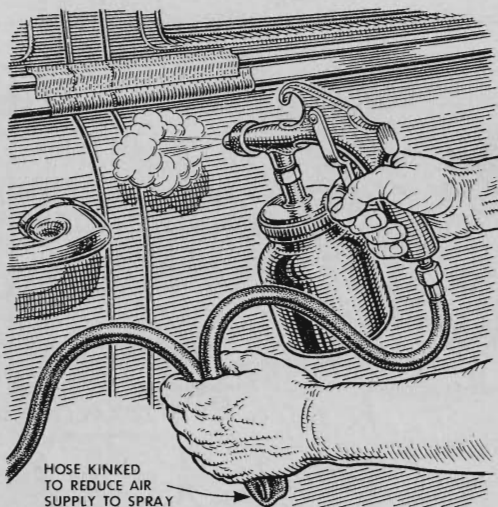
Hints FROM THE MODEL GARAGE



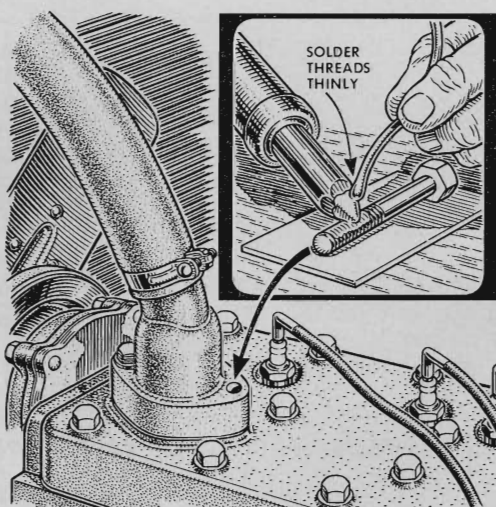
Shoe-sole repair kit, which can be bought in most five-and-dime stores, gives you the makings of a first-rate patch for that worn-out section of floor covering under the gas pedal. Trim one of the rubber soles, as shown, and cement it firmly in place.



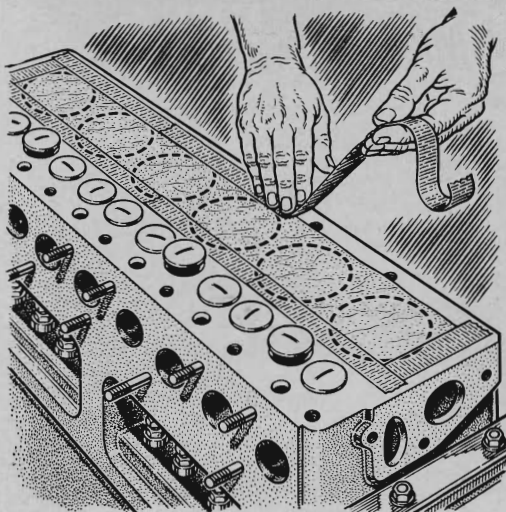
Caught in bad weather with a wiper blade that doesn't clean the windshield well, try switching it with the one on the passenger's side. Chances are the right-hand blade is in better shape; it gets less mud and sand tossed at it by passing cars.



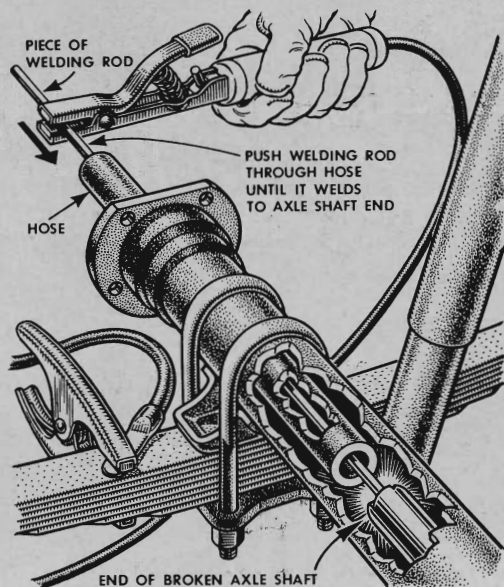
Save time on touch-up paint-spray jobs by kinking the air hose slightly with the left hand to reduce paint-spray volume temporarily. It's easier than making numerous adjustments on the air regulator to prevent overspray and time-taking clean-up jobs.



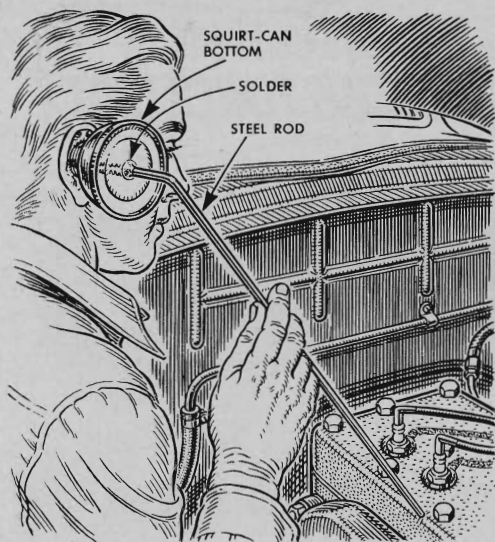
Stop leaks around bolt threads that can't be sealed with new gaskets by removing the bolts and floating soft solder over the threaded area with a soldering iron or torch. Leave the first few threads untinned for easy bolt replacement.



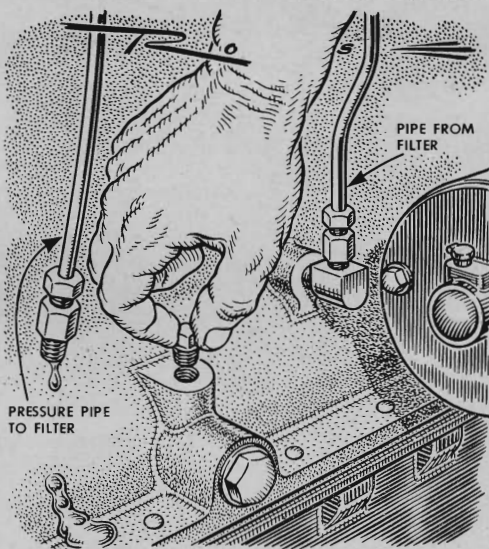
Cover cylinder bores before you grind L-head engine valves. Otherwise, damaging grit may get in. Use wrapping paper to cover the bores, attaching it to the block with masking tape. After valves are ground, brush away grit before removing the paper.



Use welding rods to remove broken axle stubs. Tack two rods end-to-end. Clip one electric welder clamp to a rear spring, the other to the rod. Make a pass at the stub through a piece of garden hose. Welded to the rod, the stub is pulled out easily.



Locate hard-to-find engine knocks with a homemade stethoscope. Make a right-angle bend near one end of a curtain rod, and solder this end to the bottom of an oil can. Probe the engine block with the rod, holding the can mouth to your ear. Diaphragm-amplified sound is easily spotted.



The right-size pipe plug, stored in your car's tool chest, can save you a lot of trouble if a bypass-type oil filter or its lines develop a leak out on the road. Remove the inlet tube where it couples to the engine block, insert the plug, and your emergency repair will get you home.